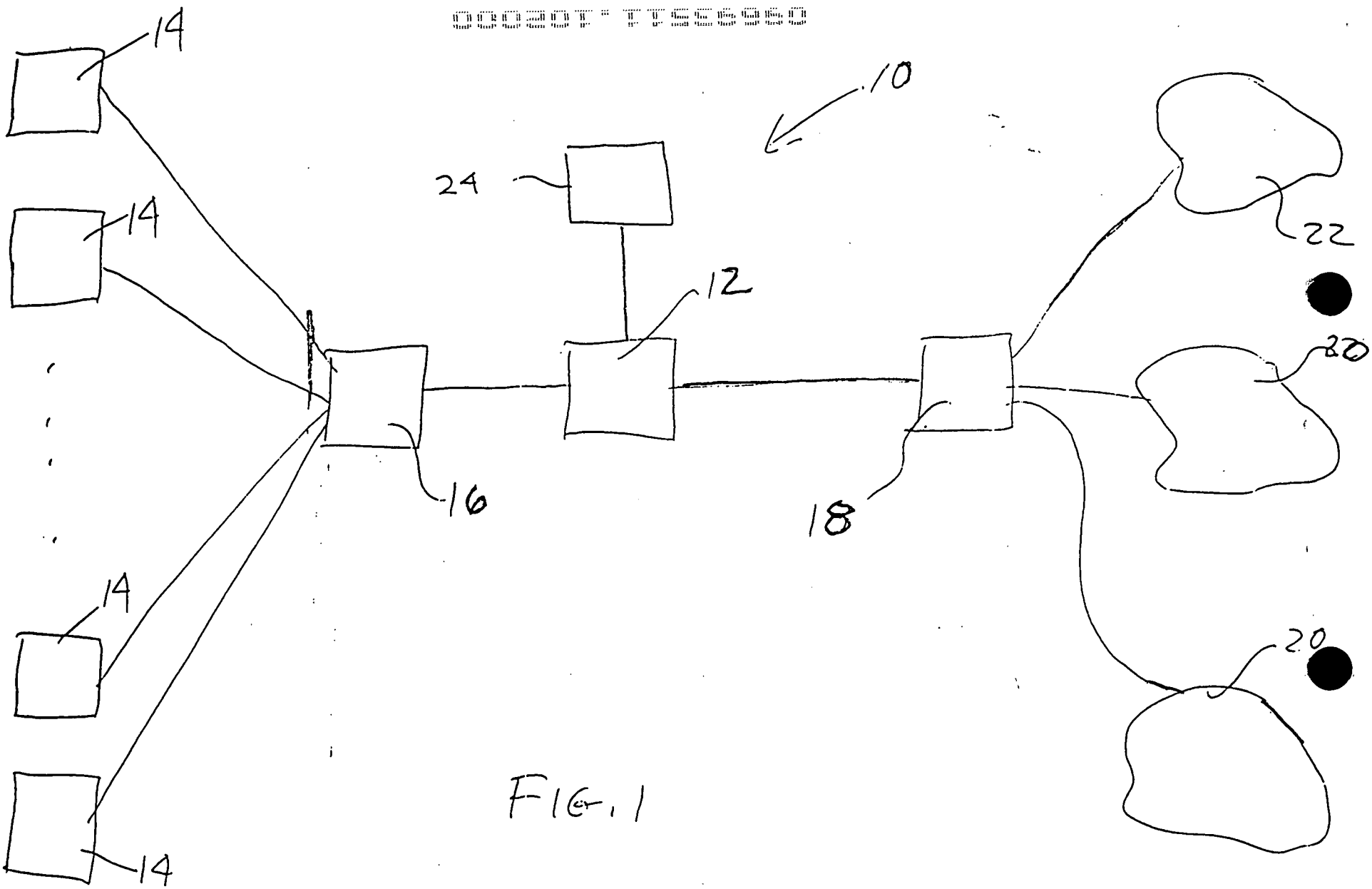

FIG. 1

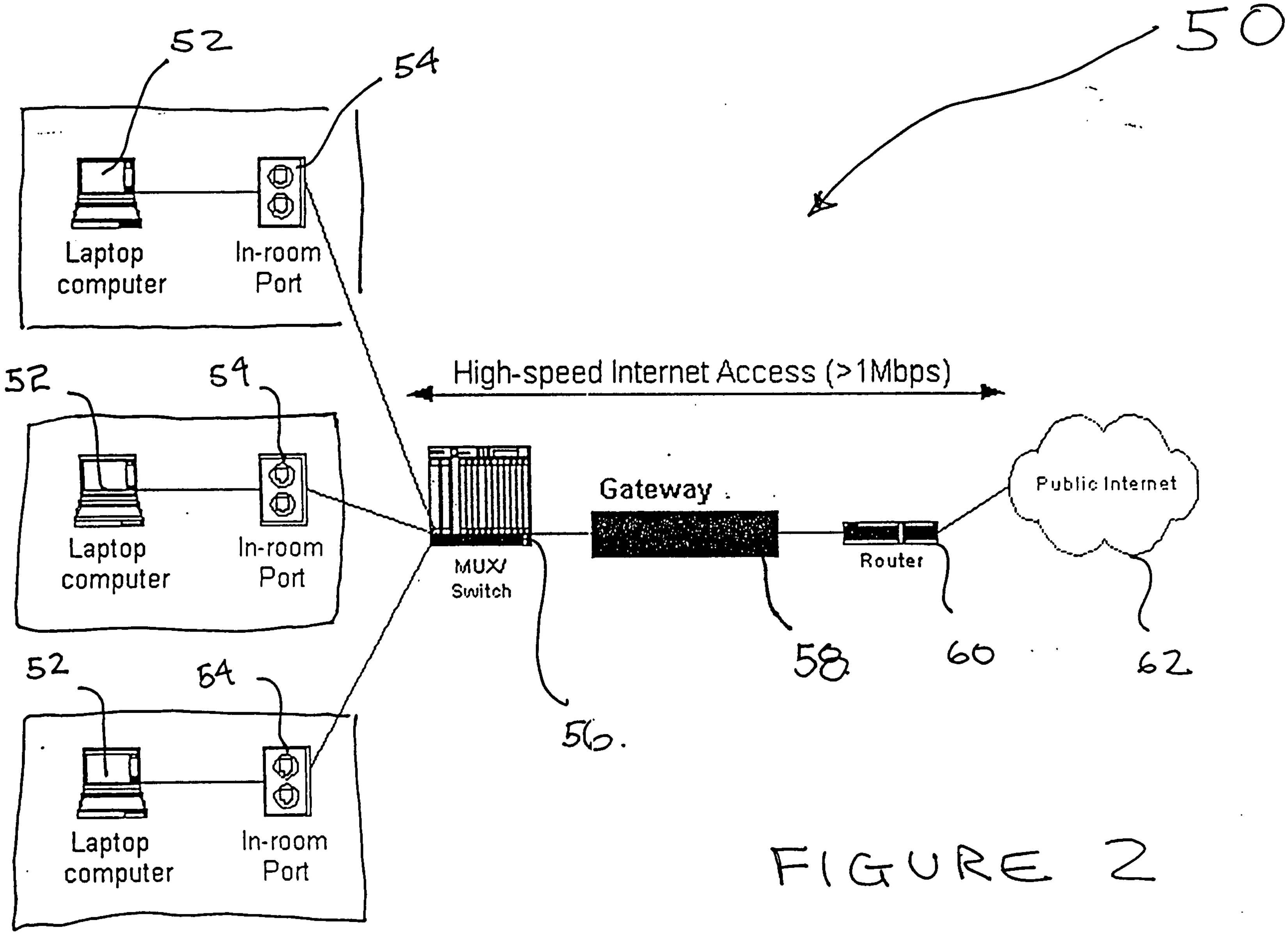
50
52
54
Laptop computer
In-room Port
High-speed Internet Access (>1Mbps)
MUX/ Switch
Gateway
Router
Public Internet
56
58
60
62

FIGURE 2

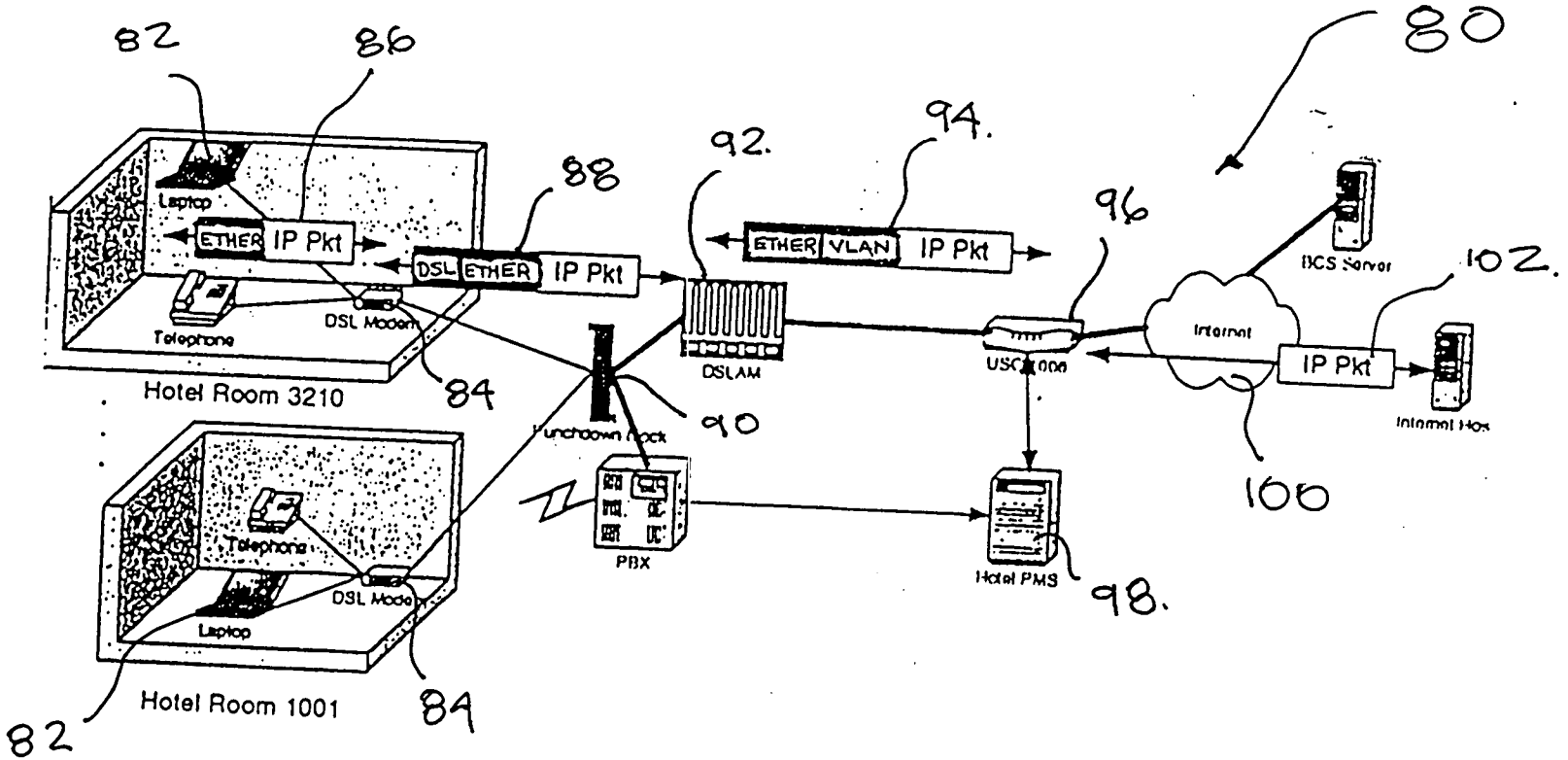
82
86
80
92.
94.
88
96
102.
Laptop
ETHER
IP Pkt
DSL
ETHER
IP Pkt
ETHER
VLAN
IP Pkt
DCS Server
Telephone
DSL Modem
DSLAM
Internet
IP Pkt
Hotel Room 3210
84
90
PBX
Hotel PMS
100
98.
Telephone
DSL Modem
Laptop
Hotel Room 1001
82
84

FIGURE 3.

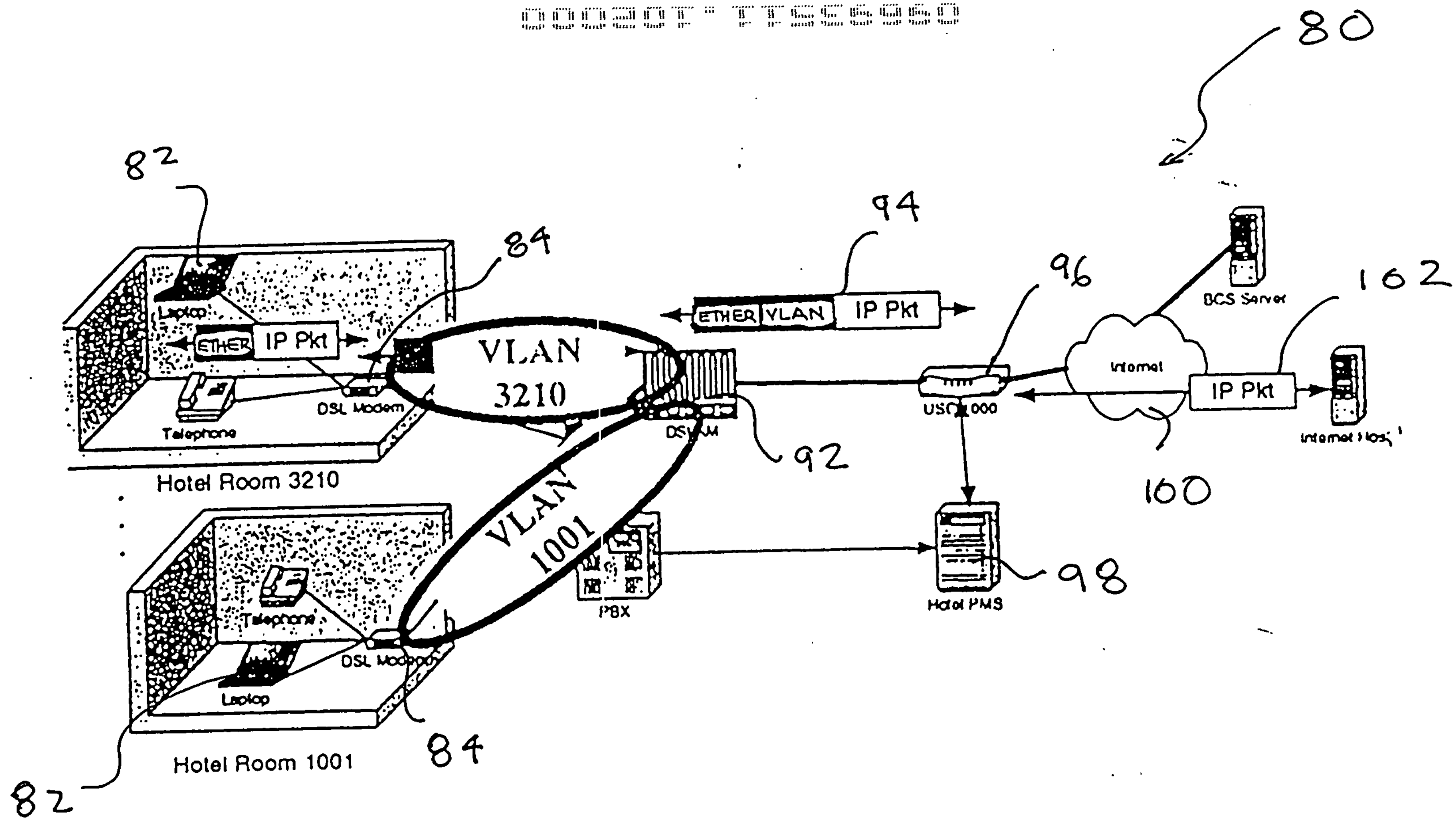
80
82
84
94
96
162
ETHER
IP Pkt
ETHER
VLAN
IP Pkt
VLAN
3210
VLAN
1001
Laptop
Telephone
DSL Modem
Hotel Room 3210
Hotel Room 1001
DSLAM
92
BCS Server
Internet
IP Pkt
Internet Host
100
PBX
Hotel PMS
98
84
82

FIGURE 4.

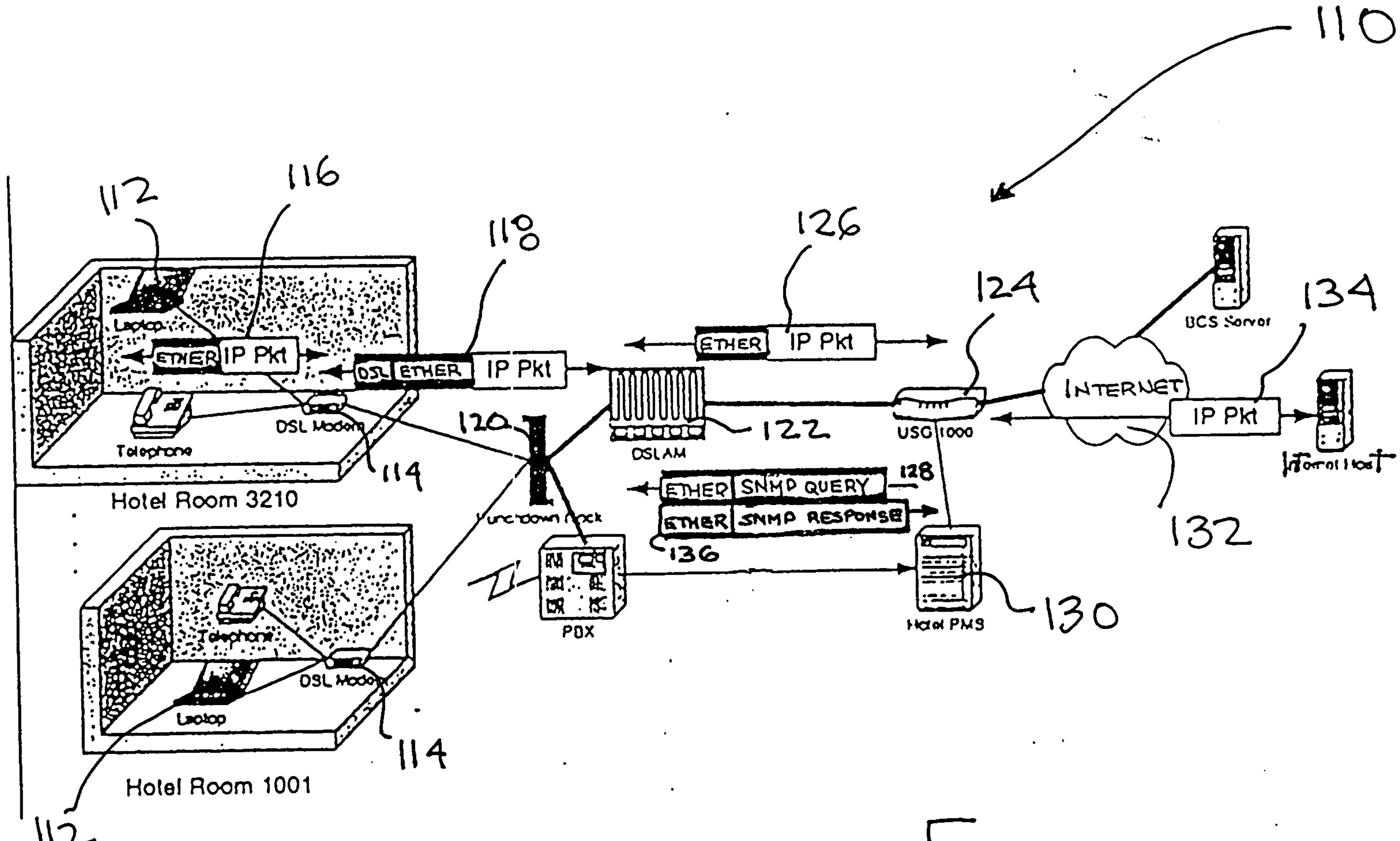
110
112
116
118
126
124
134
Laptop
ETHER
IP Pkt
DSL
ETHER
IP Pkt
ETHER
IP Pkt
UCS Server
INTERNET
IP Pkt
Telephone
DSL Modem
120
DSLAM
122
USG 1000
Internal Host
114
Hotel Room 3210
Punchdown Block
ETHER
SNMP QUERY
128
ETHER
SNMP RESPONSE
136
132
PBX
Hotel PMS
130
Telephone
DSL Modem
Laptop
114
Hotel Room 1001
112

FIGURE 5

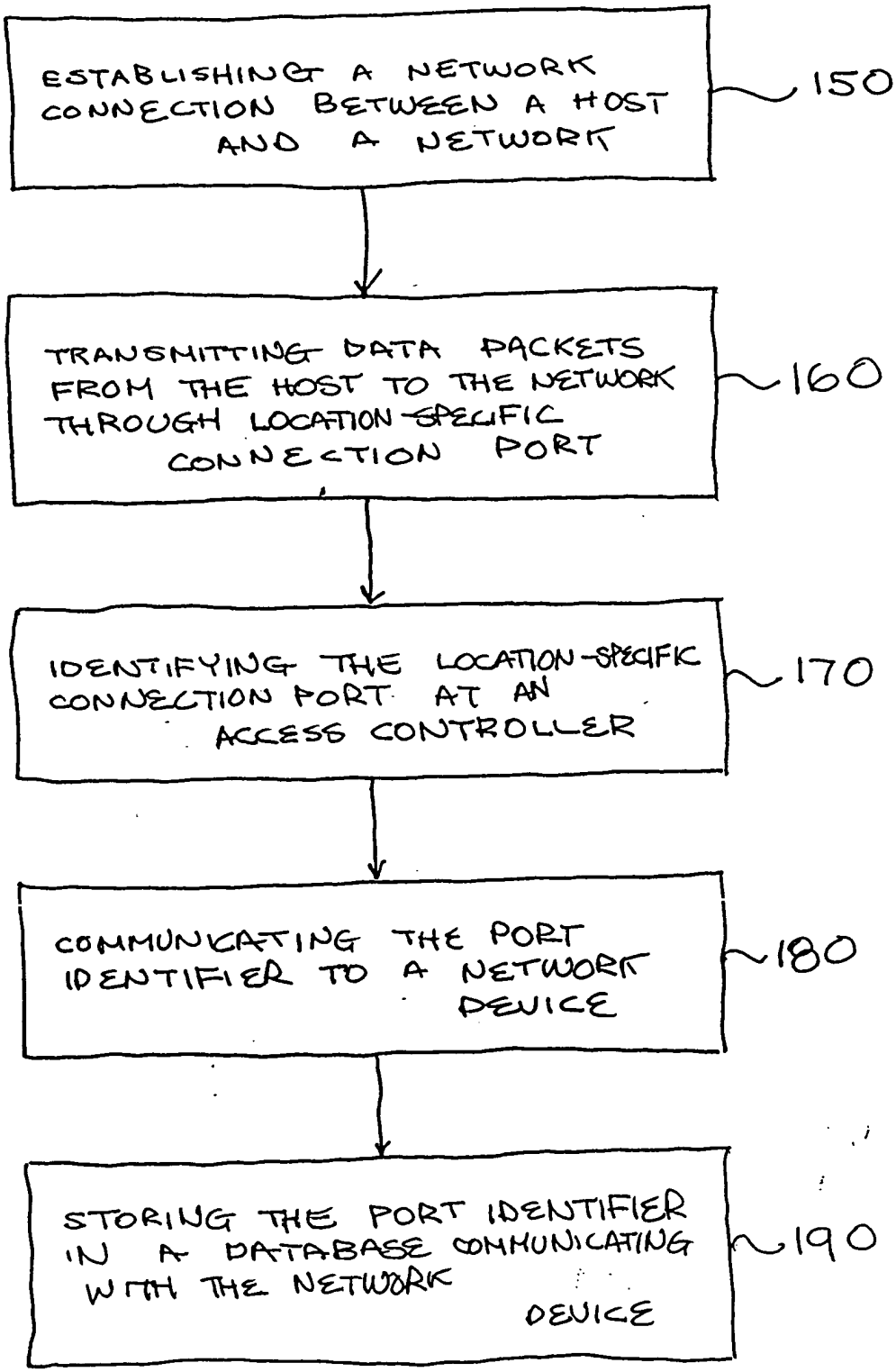
ESTABLISHING A NETWORK CONNECTION BETWEEN A HOST AND A NETWORT
150
TRANSMITTING DATA PACKETS FROM THE HOST TO THE NETWORK THROUGH LOCATION-SPECIFIC CONNECTION PORT
160
IDENTIFYING THE LOCATION-SPECIFIC CONNECTION PORT AT AN ACCESS CONTROLLER
170
COMMUNICATING THE PORT IDENTIFIER TO A NETWORT DEVICE
180
STORING THE PORT IDENTIFIER IN A DATABASE COMMUNICATING WITH THE NETWORK DEVICE
190

FIG. 6

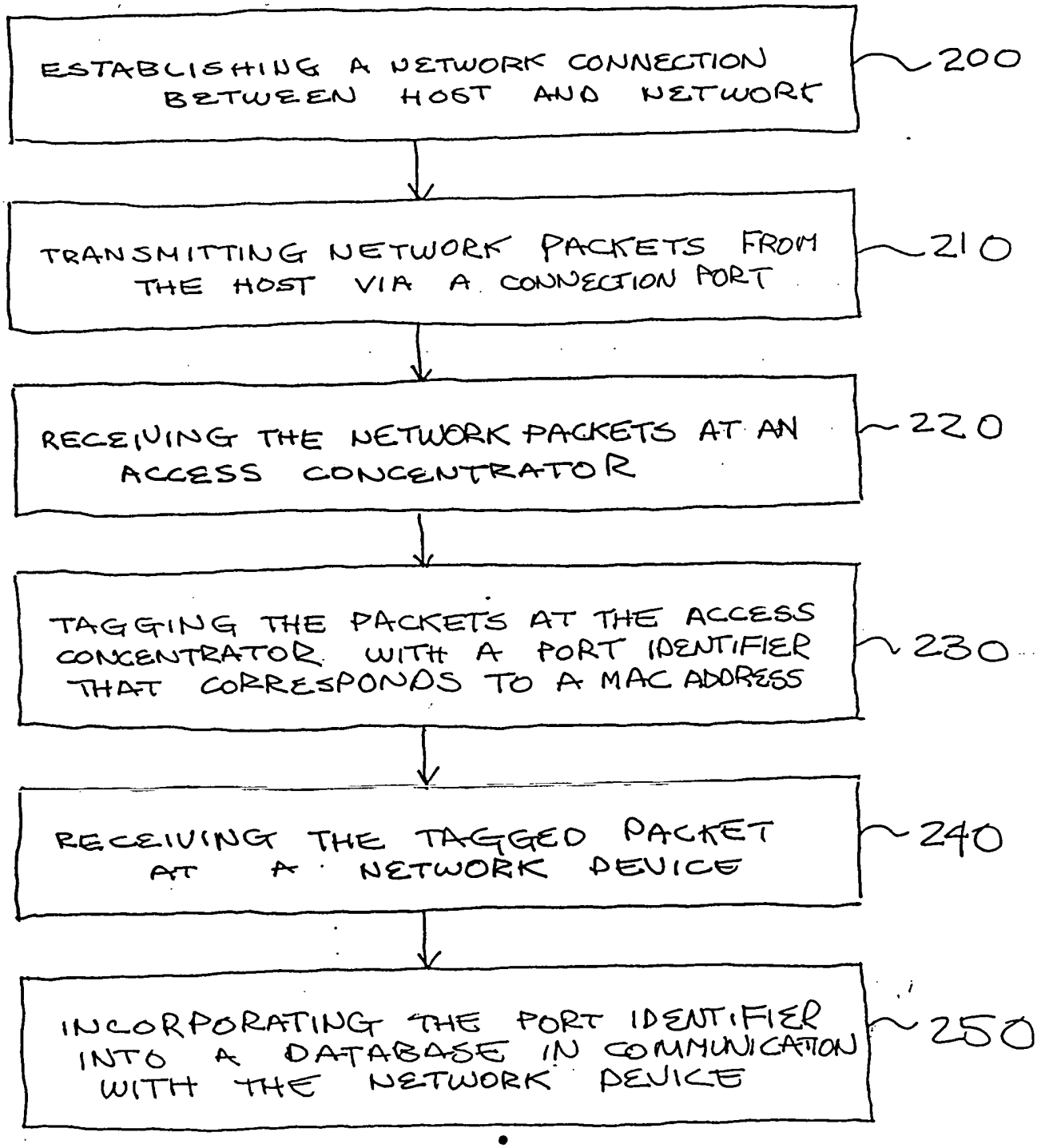
ESTABLISHING A NETWORK CONNECTION BETWEEN HOST AND NETWORK
200
TRANSMITTING NETWORK PACKETS FROM THE HOST VIA A CONNECTION PORT
210
RECEIVING THE NETWORK PACKETS AT AN ACCESS CONCENTRATOR
220
TAGGING THE PACKETS AT THE ACCESS CONCENTRATOR WITH A PORT IDENTIFIER THAT CORRESPONDS TO A MAC ADDRESS
230
RECEIVING THE TAGGED PACKET AT A NETWORK DEVICE
240
INCORPORATING THE PORT IDENTIFIER INTO A DATABASE IN COMMUNICATION WITH THE NETWORK DEVICE
250

FIGURE 7

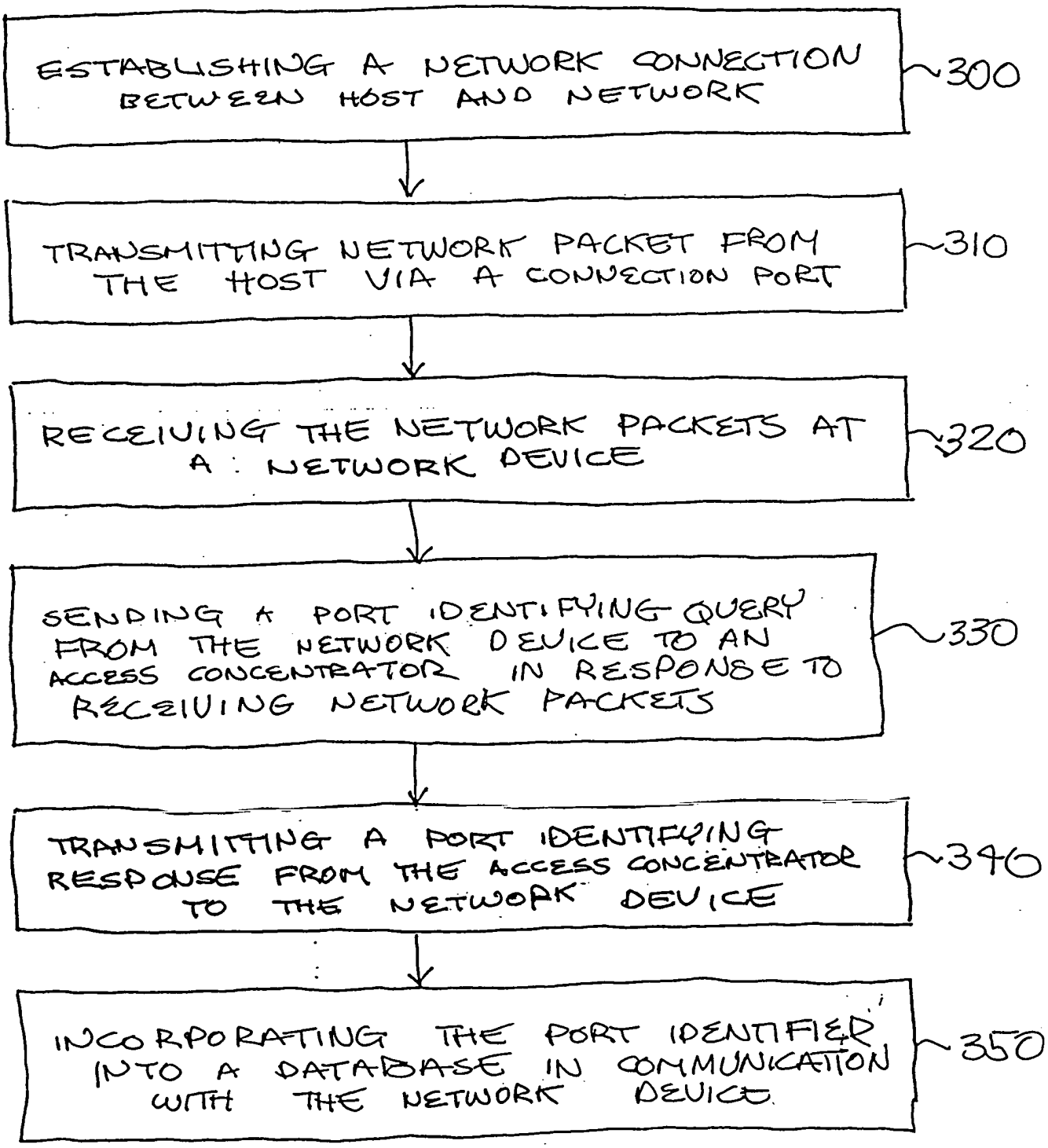
ESTABLISHING A NETWORK CONNECTION BETWEEN HOST AND NETWORK
300
TRANSMITTING NETWORK PACKET FROM THE HOST VIA A CONNECTION PORT
310
RECEIVING THE NETWORK PACKETS AT A NETWORK DEVICE
320
SENDING A PORT IDENTIFYING QUERY FROM THE NETWORK DEVICE TO AN ACCESS CONCENTRATOR IN RESPONSE TO RECEIVING NETWORK PACKETS
330
TRANSMITTING A PORT IDENTIFYING RESPONSE FROM THE ACCESS CONCENTRATOR TO THE NETWORK DEVICE
340
INCORPORATING THE PORT IDENTIFIER INTO A DATABASE IN COMMUNICATION WITH THE NETWORK DEVICE
350

FIGURE 8